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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,248	01/03/2002	Karl H. Mauritz	42390.P12255	9300

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EXAMINER

WARE, CICELY Q

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. ✓ 10/039,248	Applicant(s) MAURITZ ET AL.	
	Examiner Cicely Ware	Art Unit 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-23 is/are allowed.
- 6) ☐ Claim(s) 1-5, 7-10, 13-17 and 19 is/are rejected.
- 7) ☒ Claim(s) 6, 11, 12, 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - a. Pg. 2, Examiner suggests applicant insert all U.S Patent Application Serial Numbers for clarification purposes.
 - b. Pg. 5, line 24, examiner suggests applicant delete the second "." for clarification purposes.Appropriate correction is required.
2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 7, 9, 10, 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Co et al. (US Patent 5,491,729).

(1) With regard to claim 1, Co et al. discloses in (Figs. 1 and 5) a system

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comprising: a bus (84); first logic (Fig. 1, (22)) to generate a multiphase encoded waveform; and second logic (Fig. 1 (44), Fig. 4 (52, 84)), coupled to the first logic to drive the multiphase encoded waveform on to the bus.

(2) With regard to claim 2, claim 2 inherits all the limitations of claim 1. Co et al. further discloses in (Fig. 1) wherein the first logic includes a multiphase phase lock loop (22) to generate multiple phases for the multiphase encoded waveform (col. 4, lines 3-24).

(3) With regard to claim 3, claim 3 inherits all the limitations of claim 1. Co et al. further discloses in (Figs. 6, 7, 8) wherein second logic includes third logic to generate differential signal levels representing the multiphase encoded waveform (col. 5, lines 9-67, col. 6, lines 31-37).

(4) With regard to claim 4, claim 4 inherits all the limitations of claim 2. Co et al. further discloses in (Fig. 1) wherein the first logic (32) includes an input register (40), coupled to the multiphase phase lock loop (10, 26m 22), to receive at least one data word or at least one command/control word (12).

(5) With regard to claim 7, claim 7 inherits all the limitations of claim 3. Co et al. further discloses in (Fig. 5) the bus (84) includes at least one differential transmission line (80) to receive signal levels for the multiphase encoded waveform.

(6) With regard to claim 9, claim 9 inherits all the limitations of claim 1. Co et al. further discloses in (Fig. 1) third logic (88) coupled to the bus (84) to receive the multiphase encoded waveform (22) (Fig. 6 and Fig, 7).

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(7) With regard to claim 10, claim 10 inherits all the limitations of claim 9. Co et al. further discloses in (Figs. 1 and 9) wherein the third logic (140) includes an amplifier (148) to receive differential signal levels (144) representing the multiphase encoded waveform from the bus (84) and extract the multiphase encoded waveform from the received differential signal levels (col. 6, lines 26-37).

(8) With regard to claim 13, Co et al. further discloses in (Fig. 1) a device driver having first logic (22, 32)) to generate a multiphase encoded waveform and second logic (44) coupled to the first logic to drive the multiphase encoded waveform on to a bus (84) (abstract, col. 2, lines 51-60).

(9) With regard to claim 14, claim 14 inherits all the limitations of claim 13. See rejection of claim 2.

(10) With regard to claim 15, claim 15 inherits all the limitations of claim 13. See rejection of claim 3.

(11) With regard to claim 16, claim 16 inherits all the limitations of claim 14. See rejection of claim 4.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 5, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Co et al. (US Patent 5,491,729) as applied to claims 4, 14, in view of Chang et al. (US Patent 6,611,247).

(1) With regard to claim 5, claim 5 inherits all the limitations of claim 4. However Co et al. does not disclose wherein the input register comprises a first-in-first-out (FIFO) register.

However Chang et al. discloses wherein the input register comprises a first-in-first-out (FIFO) register (Fig. 4 (22), Fig. 8 (84)).

Therefore it would have been obvious to one of ordinary skill in the art to modify Co et al. in view of Chang et al. to incorporate wherein the input register comprises a first-in-first-out (FIFO) register in order enlarge phase granularity and desensitize the system to an asynchronous clock environment.

(2) With regard to claim 17, claim 17 inherits all the limitations of claim 14. See rejection of claim 5.

7. Claim 8, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Co et al. (US Patent 5,491,729) as applied to claims 7 and 13, in view of Mallard, Jr. (US Patent 5,235,617).

(1) With regard to claim 8, claim 8 inherits all the limitations of claim 7. Co Et al. does not disclose wherein second logic further comprises impedance matching circuitry to match impedance of the second logic to the differential transmission line.

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However Mallard, Jr. discloses wherein second logic further comprises impedance matching circuitry to match impedance of the second logic to the differential transmission line (col. 2, lines 5-47).

Therefore it would have been obvious to one of ordinary skill in the art to modify Co et al. in view of Mallard, Jr. to incorporate wherein second logic further comprises impedance matching circuitry to match impedance of the second logic to the differential transmission line in order to delete baseline wandering and common mode noise.

(2) With regard to claim 19, claim 19 inherits all the limitations of claim 13. See rejection of claim 8.

Allowable Subject Matter

8. Claims 6, 11, 12, 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a multiphase encoding system. Prior art references show similar methods but fail to teach: **“the input register includes a command/control signal input, wherein a command/control signal on the command/control signal input is to indicate whether the multiphase encoded waveform is a data structure or a command/control structure”**, as in claims 6, 18; **“the third logic includes a differential delayed lock loop coupled to stretch a multiphase encoded waveform timing to a**

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predetermined length”, as in claim 11; “the third logic includes a register coupled to check data integrity of the multiphase encoded waveform”, as in claim 12.

9. Claims 20-23 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a multiphase encoding system. Prior art references show similar methods but fail to teach: **“includes a differential delayed lock loop coupled to stretch a multiphase encoded waveform timing to a predetermined length”, as in claim 20.**

Conclusion

11. The prior art made record of and not relied upon is considered pertinent to applicant’s disclosure:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
October 3, 2005



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